REMARKS

This Response is submitted in reply to the Office Action dated December 19, 2008. Claims 1 to 30 are pending in the present application. Claims 1, 8, 10, 12, 18, 25, 27, 29 and 30 are hereby amended. Support for the amendments can be found in the Specification of the present application, for example, in at least paragraph [0185] of the published application. Claims 1, 8, 12, 18, 25, 29 and 30 are in independent form.

The Office Action rejected Claims 29 and 30 under 35 U.S.C. § 101 and stated such claims are directed to non-statutory subject matter. Applicant has amended Claims 29 and 30 and submits that these amendments overcome these rejections.

The Office Action rejected Claims 1 to 6, 8 to 16, 18 to 23 and 25 to 30 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 7,203,147 to Kawakami et al. ("Kawakami"). Applicant believes that the Office Action meant to apply the Kawakami reference under a 35 U.S.C. §102(e) rejection rather than under a 35 U.S.C. §102(a) rejection. Applicants respectfully disagrees with such rejections for at least the reasons set forth below.

The information recording processing device of amended independent Claim 1 includes, among other elements, "recording frame characteristic determining means for determining a data characteristic of constituent data of an additional data-corresponding recording frame, wherein said data characteristic represents a state obtained from said additional data-corresponding recording frame; and an additional data-corresponding data controlling unit for controlling constituent bits of a data-changeable data part on a basis of: (i) a constituent bit value of additional data; and (ii) the data characteristic of the constituent data of said additional data-corresponding recording frame." Applicant submits that Kawakami does not anticipate or render obvious the forgoing combination of elements of amended Claim 1.

The Abstract of Kawakami discloses:

A storage medium initializing method includes the steps of detecting a mode corresponding to a recording format to be loaded on a storage medium; and initializing the storage medium according to the mode detected in the detecting step. A recording and reproducing method and apparatus are configured to detect a type of storage medium loaded onto the apparatus and adjust the recording and reproducing processes accordingly.

Column 14, line 66 to column 15, line 13 of Kawakami discloses, with emphasis added:

As shown in FIG. 14, the data in one recording block (64 kilobytes) constituting an increment for read and write operations are placed in a BIS block made up of 496 frames ranging from frame 10 to frame 505. The 496-frame data constituting the BiS block are prefixed with a 10-frame preamble ranging from frame 0 to frame 9. The data frames are further suffixed with a six-frame postamble ranging from frame 506 to frame 511. A total of 512 frames of data are placed in the ADIP cluster ranging from ADIP sector 0h to ADIP sector Fh.

The preamble and postamble frames before and after the data frames are provided to protect the data upon linkage with adjacent recording blocks. The preamble frames are also used for data PLL settlement, signal amplitude control, and signal offset control.

Column 16, lines 18 to 23 of Kawakami disclose:

The memory transfer controller 3 controls transfers of write and read data to and from the media drive unit 2.

Under control of the memory transfer controller 3, the cluster buffer memory 4 buffers data that are read in increments of recording blocks from data tracks of the disc 90 by the media drive unit 2.

Regarding independent Claims 1, 18 and 29, page 4 of the Office Action stated that Kawakami discloses, with emphasis added:

an additional data-corresponding data controlling unit and step for controlling constituent bits of a data-changeable data part on a basis of a constituent bit value of additional data and the data characteristic of the constituent data of said additional data-corresponding recording frame (Fig. 16, column 16, lines 18-23, Fig. 14, columns 14-15, lines 66-13), where the memory transfer controller (3) and the cluster buffer memory (4) control which the additional data-corresponding data or the preamble and suffix frames are used.

Applicant respectfully disagrees. It appears that the Office Action interprets the preamble and the postamble frames of Kawakami as the constituent bits of the data-changeable data part of amended Claim 1. As stated above, the preamble and postamble frames of Kawakami are provided to protect data upon linkage with adjacent blocks. These preamble and postamble frames of Kawakami (interpreted as the constituent bits of data-changeable data part of Claim 1) are not controlled based on a constituent bit value of additional data and the data characteristic of the constituent data of the additional data-corresponding frame. Moreover, the

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preamble and postamble frames of Kawakami are <u>not</u> controlled <u>based on</u> a constituent bit value of additional data <u>and</u> the a state obtained from the additional data-corresponding recording frame. On the other hand, the information recording processing device of amended Claim 1 includes, among other elements, "an additional data-corresponding data controlling unit for controlling constituent bits of a data-changeable data part <u>on a basis of:</u> (i) a constituent bit value of additional data; <u>and</u> (ii) the data characteristic of the constituent data of said additional data-corresponding recording frame." That is, in other words, because the data characteristic represents a state obtained from the additional data-corresponding recording frame, the presently claimed information recording processing device includes controlling constituent bits of a data-changeable data part <u>based on</u> a constituent bit value of additional data <u>and</u> a state obtained from the additional data-corresponding recording frame.

For at least these reasons, it is respectfully submitted that independent Claim 1 is patentably distinguished over Kawakami and in condition for allowance. Dependent Claims 2 to 6 depend directly from amended independent Claim 1 and are also allowable for the reasons given with respect to Claim 1 and because of the additional features recited in these claims.

Independent Claims 12, 18 and 29 each include certain similar elements to independent Claim 1. For reasons similar to those discussed above with respect to independent Claim 1, independent Claims 12, 18 and 29 (and dependent Claims 13 to 16 and 19 to 23) are each patentably distinguished over Kawakami and in condition for allowance.

Regarding independent Claims 8 and 30, pages 6 to 7 of the Office Action stated that Kawakami discloses, with emphasis added:

> an additional data decoding unit (23) and step for determining data characteristics of an additional data-corresponding recording frame and specific user control data read from the information recording medium, and obtaining additional data constituent bit information on a basis of the two determined data characteristics (Fig. 17, column 24, lines 8-11), <u>where decoding unit (23) obtains the code train as the reproduced data or the recording frame.</u>

Applicant respectfully disagrees. Under a <u>first interpretation</u> of Kawakami, the code train of Kawakami is interpreted as the recording frame of amended Claim 8; and (ii) the RS-LDC decoder (23) of Kawakami is interpreted as the additional data decoding unit of amended Claim 8. Under this first interpretation, the information recording processing device of Kawakami does

not anticipate an additional data decoding unit for <u>determining a first data characteristic of an</u> <u>additional data-corresponding recording frame, wherein said first data characteristic represents a</u> <u>state obtained from said additional data-corresponding recording frame.</u>

Column 24, lines 8 to 18 of Kawakami discloses, with emphasis added:

When data are reproduced from the next-generation MD1 or MD2 disc, the reproduced RF signal obtained by the RF amplifier 21 is fed to an RLL(1-7)PP demodulation unit 22 and an RS-LDC decoder 23. More specifically, given the reproduced RF signal, the RLL(1-7)PP demodulation unit 22 performs data detection through PR(1, 2, 1)ML or PR(1, 1)ML and Viterbi decoding <u>to acquire</u> <u>an RLL(1-7) code train as reproduced data. The demodulation unit 22 subjects</u> <u>the RLL(1-7) code train to RLL(1-7) demodulation. The demodulated data are</u> <u>fed to the RS-LDC decoder 23</u> for error correction and de-interleave processing.

As stated above, a demodulation unit of Kawakami performs data detection and decoding to acquire and RLL(1-7) code train as reproduced data. This code train of Kawakami is demodulated and fed to an RS-LDC decoder. The RS-LDS decoder (23) of Kawakami (interpreted as the additional data decoding unit of Claim 8) does <u>not</u> determine a first characteristic of an additional data-corresponding code train (interpreted as the recording frame of Claim 8). Moreover, because the RS-LDS decoder of Kawakami does not determine a first characteristic of an additional data-corresponding code train, the RS-LDS (23) of Kawakami does <u>not</u> determine a state obtained from an additional data-corresponding code train. On the other hand, the information recording processing device of amended independent Claim 8 includes, among other elements, "an additional data decoding unit for <u>determining a first data</u> <u>characteristic of an additional data-corresponding recording frame, wherein said first data</u> <u>characteristic represents a state obtained from said additional data-corresponding recording</u> <u>frame.</u>"

Under a <u>second interpretation</u> of Kawakami: (i) the code train of Kawakami is interpreted as the additional data constituent bit information of amended Claim 8; and (ii) the RS-LDC decoder (23) of Kawakami is interpreted as the additional data decoding unit of amended Claim 8. Under this second interpretation, the information recording processing device of Kawakami does not anticipate an additional data decoding unit for obtaining additional data constituent bit information on a basis of: (i) the first determined data characteristic which represents the state

obtained from the additional data-corresponding recording frame; and (ii) the second determined data characteristic of the specific user control data. Specifically, the RS-LDS decoder (23) of Kawakami (interpreted as the additional data decoding unit of Claim 8) does not obtain code train (interpreted as the additional data constituent bit information of Claim 8) on a basis of: (i) the first determined data characteristic which represents the state obtained from said additional data-corresponding recording frame; and (ii) the second determined data characteristic of the specific user control data. On the other hand, the information recording processing device of amended independent Claim 8 includes, among other elements, "an additional data decoding unit for obtaining additional data constituent bit information on a basis of: (i) the first determined data characteristic which represents the state obtained from the additional data-corresponding recording frame; and (ii) the second determined data characteristic of the specific user control data."

For at least these reasons, it is respectfully submitted that independent Claim 8 is patentably distinguished over Kawakami and in condition for allowance. Dependent Claims 9 to 11 depend directly from amended independent Claim 8 and are also allowable for the reasons given with respect to Claim 8 and because of the additional features recited in these claims.

Independent Claims 25 and 30 each include certain similar elements to independent Claim 8. For reasons similar to those discussed above with respect to independent Claim 8, independent Claims 25 and 30 (and dependent Claims 26 to 28) are each patentably distinguished over Kawakami and in condition for allowance.

The Office Action rejected Claims 7, 17 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Kawakami in view of U.S. Patent No. 5,986,987 to Taguchi et al. ("Taguchi").

The Abstract of Taguchi discloses:

> A system reproduces data from an optical disk in which a signal obtained by encoding recording data in accordance with a recording rule including a rule corresponding to a partial response class I characteristic has been recorded. The system includes an optical head for reproducing a signal from the optical disk, an analog-to-digital converter for sampling the signal reproduced by the optical head at predetermined timing and for outputting sampling data, a determination unit for determining, based on the sampling data from the analog-to-digital converter, a transition state of data to be reproduced in accordance with a transmission line characteristic of the reproduction system for the optical disk, and a data decision

unit for deciding maximum likelihood reproduction data at present timing based on the determination result obtained by the determination unit.

Page 9 of the Office Action stated:

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have modified the modulated data generating unit as taught by Kawakami by including that the modulator converts two-bit data to three-bit data as taught by Taguchi.

Applicant submits that regardless of whether it would have been obvious at the time of invention to a person of ordinary skill in the art to have modified the modulated data generating unit as taught by Kawakami by including that the modulator converts two-bit data to three-bit data as taught by Taguchi, unlike the information recording processing device of Claim 7, neither Kawakami or Taguchi, nor the information recording processing device resulting from the combination of Kawakami and Taguchi anticipate or render obvious an information recording processing device including recording frame characteristic determining means for determining a data characteristic of constituent data of an additional data-corresponding recording frame, wherein said data characteristic represents a state obtained from said additional data-corresponding recording frame; and an additional data-corresponding data controlling unit for controlling constituent bits of a data-changeable data part on a basis of: (i) a constituent bit value of additional data; and (ii) the data characteristic of the constituent data of said additional data-corresponding recording frame. Moreover, it would not have been obvious to one of ordinary skill in the art to modify Kawakami and Taguchi to result in such an information recording processing device without reasonably being construed as improper hindsight reconstruction. On the other hand, the information recording processing device of amended Claim 7 includes, among other elements, "an additional data-corresponding data controlling unit for controlling constituent bits of a data-changeable data part on a basis of: (i) a constituent bit value of additional data; and (ii) the data characteristic of the constituent data of said additional data-corresponding recording frame."

Claims 17 and 24 each include certain similar elements to Claim 7. For reasons similar to those discussed above with respect to Claim 7, Claims 17 and 24 are each patentably distinguished over Kawakami in view of Taguchi and in condition for allowance.

An earnest endeavor has been made to place this application in condition for formal allowance, and allowance is courteously solicited. If the Examiner has any questions regarding this Response, Applicant respectfully requests that the Examiner contact the undersigned.

Respectfully submitted,

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